Discourses in Traffic

Discourses in Traffic:

Communication between Traffic Signs and Their Users in China

By

Hui Dai

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For my father

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My heartfelt gratitude to you all.

PREFACE

The term “traffic” is not culturally indigenous to the Chinese language. The fact is, China had been an agricultural country since ancient times, and most Chinese simply did not need to travel. Tao Qian, a famous ancient Chinese poet, once described a wonderland that featured “paths crisscrossing the fields in all directions”. This was the Chinese people’s initial understanding of “traffic”. Many people with even a basic understanding of Chinese culture would agree that in the past, the Chinese were not keen on the idea of traveling. Thus, an ancient Chinese would understand “traffic” in a totally different way from an ancient Greek in the polis system, or from that of a Westerner during the industrial revolutions. It was only a century ago that China kick-started its urbanization and industrialization, yet over the past three decades, it has made huge strides in terms of national economic growth and international communication. With these developments, traffic and its regulations have become increasingly important for the Chinese people.

Given the above background, this book strives to represent the language scenarios present in the urban traffic in China, and to record driver responses to the traffic signage. The study is done in Guangzhou, a tier-one metropolis in China with time-honored harbors and a key juncture in the Guangdong-Hong Kong-Macao Greater Bay Area. The study is articulated via texts, visual forms, geographical features, and user experiences, with a goal to depict the real interaction between drivers and traffic signs.

The book has been adapted from my PhD thesis (conducted from 2011 to 2015) for three reasons. Primarily, I intend to showcase a real picture of the traffic signs in Guangzhou, so as to describe the overall traffic system in China. This study is meant to represent the communicative system in an objective light. China is a modernized country with a long history, so it is a valuable task to depict the complexity of its traffic system, its cultural geography, and the Chinese language. The gigantic traffic volume and traffic infrastructure of China have not only reshaped its typography, but also its humanity. To describe these realities is in itself a way to offer a snapshot of China’s unique culture, which may then be viewed by the whole world.

Second, the study focuses on traffic-sign users from an anthropological vantage. It reports their daily experiences with and responses to traffic signs. The rationale for this approach is underpinned by the fact that there are increasing numbers of novice drivers and foreigners who drive in China—and, of course, there are all the drivers who travel to new cities knowing nearly nothing of the traffic system they are about to face. The question is how these drivers might confront unfamiliar traffic situations, given that they might not yet be skillful drivers, given that they might face language barriers, and given that they might know little or nothing about the areas in which they are traveling. Data tell us that in 2019 alone, there were 26.37 million novice drivers in China, which equals two-fifths of the UK’s total population. There is no doubt that their experiences with traffic signage are integral to fostering social trust and to building China’s national image.

Last but importantly, the recording and compiling of traffic discourses are activities that have seldom, if ever, been undertaken in the past. Using proper scholarship, researchers can recount and support the anecdotes, accidents, achievements, and measurable points of progress of the traffic world. In this light, the study brings together linguistics, anthropology, and communication so as to yield significant insights rooted in a cross-disciplinary perspective. True, discourses in traffic are not unique to China. Each country, place, or culture has its way of presenting the traffic world, which leads to the diversity of the world, and which makes this study methodologically significant.

Time hustles and traffic bustles. China has, since its reform and opening up, evolved from an agricultural power to an infrastructural giant. The geographical barriers have been removed such that one can now travel to any part of China via the transport system. China’s unending development has driven ever-faster innovation. Metros, high-speed

rails, expressways, bridges, and overpasses have all been built one after another—and all have played a part in reshaping China's geography and its people's psychology. In the future, the traffic system must become more user-friendly and more interdependent with its users. To achieve these goals, it is crucial to portray the real traffic situations that drivers are encountering now. But to be clear: a central purpose of this study is not to complain about traffic problems in China but to encourage the nation to overcome very natural challenges that have arisen from the nation's swift growth in an area relatively new to it. The journey ahead is long; let's hope this study is the first step toward that destination.

DAI Hui
At HEMC, Guangzhou, China

FOREWORD

TIAN HAILONG

Dr. Dai Hui kindly asked me to write a few words for her book *Discourses in Traffic*, which is going to be published with Cambridge Scholars. I readily accepted the invitation because I found the title very interesting. At first sight, it reminded me of the title *Discourses in Place* by Scollon and Scollon (Routledge 2003), which I read about seventeen years ago (roughly in 2004) and reviewed in *Language in Society* in 2005. When I began to read the manuscript, however, I gradually understood that Dr. Dai was not just providing an interesting title for her book; instead, she was applying and thereby advancing what Scollon and Scollon had established in terms of geosemiotics by examining the traffic signs of Guangzhou and the communication and interaction of drivers with these traffic signs.

Three points are worth mentioning for the benefit of the book's potential readers. First, the present book provides a practical and, to some extent, detailed account of the traffic signs that have been used in China up to the present time, including guide signs, mandatory signs, warning signs, and prohibitory signs. Using many on-the-spot photos as illustrations, Dr. Dai explains how these traffic signs convey semantic meanings. This is a very useful discussion. As the book points out, these traffic signs raise issues of hyponymy (through which a road name covers other road names, which in turn form a set of hyponymic subordinates) and polysemy (through which one road/place name stands for many roads and/or places in different districts of the area). This complexity causes confusion for local drivers, not to mention for those who come to Guangzhou from other countries. In this sense, the issues raised here and the scrutiny provided can help drivers understand these signs properly, and they can also help academics understand something new and exciting about cross-cultural communications.

The next two points are more concerned with academic issues, both theoretical and methodological. Regarding theory, Dr. Dai's discussion of traffic signs in terms of geosemiotics and multimodality is illuminating. The composition, color, lightness, contrast, and writing vectors of the traffic signs are all included in the discussion in terms of multimodal analysis. What impressed me most was the analysis of writing vectors, wherein traffic signs were found to take not only left-to-right, top-down narrative forms, but also top-down, right-to-left narrative forms. This is a confusing situation, but Dr. Dai's discussion of the issue in Chapter Four offers possible solutions and at the same time offers useful insights for relating semiotics to the social functions of the study of signs. Thus, I have reasons to believe that Dr. Dai's use of geosemiotics advances multimodal analysis to multimodal critical discourse analysis, which David Machin, in his 2016 *Discourse and Society* article "The need for a social and affordance-driven multimodal critical discourse studies," considers the future of critical discourse analysis.

Methodologically, the book deserves the reader's attention for its application of interviews and focus-group discussions, methods that ethnographers often use in their research. These methods are helpful in their elaboration of what is found in previous discussions. But more importantly, they bring into account the drivers, local as well as from other parts of the world. Without drivers, of course, traffic signs lose their meanings—which in turn means that any discussion of traffic signs that leaves them out is wholly inadequate. This point highlights the fact that discourse analysis, critical as it is in its nature, is not merely a linguistic analysis of textual features, but an analysis of the dialectical relationship between language use and the social categories that are relevant to language use. And the people who drive on the roads and make sense of traffic signs are of course a key element of the social categories that have a close relationship with traffic signs.

All in all, Dr. Dai Hui's book is a welcome one. Readers of all kinds, including drivers and academicians, will find unexpected details and rich insights here to fill up their reservoirs of knowledge.

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FOREWORD

OUYANG HUHUA

For thousands of years, Chinese have been living agrarian lives with low mobility. They were deeply rooted in the land they farmed—so much so that they didn't really need a map or a signpost system to find their way around. The sun, the moon, the river, the hill, the old tree in the front of the village, the cock crowing from the biggest house, the seasonal wind from the warm south or the cold north: these were the things that made up their lives and gave them a sense of direction.

Traffic signing has been crucial to our culture for only the last twenty or thirty years, around the time when China became a key member of the WTO and placed itself at the center of globalization. These changes have resulted in hundreds of skyscrapers being built all over cities such as Beijing, Shanghai, Shenzhen, and Guangzhou. In Guangzhou, even the most professional bus and taxi drivers have reportedly lost their bearings in the maze of new areas, such as the Mega Center (University Town, which hosts over 250 thousand students), and have as a result complained about the confusing and even misleading traffic signs.

The Chinese landscape has changed so rapidly that, overnight, it has gone from an idyllic "I can reach my door with my eyes closed" situation to an increasingly chaotic "this road was signed two-way yesterday but it is one-way today" nightmare. There are new roads, new signs, and new rules. More importantly, there are new ways of conducting interpersonal interactions and relationships. Locals and outsiders, police and pedestrians, public administration and citizens—they have all had to learn new ways of relating to one another.

Space and time, the ways people read and write, move around, and communicate: they have all inevitably become more complicated and crucial to our modern world. It's no wonder, then, they have all become fascinating research topics to scholars in linguistics, anthropology, sociology, psychology, urbanization, public administration, transportation, and intercultural communication.

Using Scollon and Scollon's "Geosemiotics"—the theory of two world-renowned anthropologists and sociolinguists, which is highly pertinent to studying people's relations in space, Dr. Dai Hui has bravely embarked on this exploratory research journey. With four years of intensive fieldwork on numerous roads, expressways, tunnels, and viaducts, she has driven across the city hundreds of times, harvesting tens of thousands of photographs of the existing and rapidly changing traffic signs of Guangzhou. Through them, she offers readers a rich and complicated understanding of how twenty million people live together in motion.

Firstly, the material face of the city's traffic language is categorically presented through its sign boards: their lighting, colors, size of characters, location of cautions and prompts, quality of materials, etc. The author then scrutinizes all these signing choices scientifically, and, at times, she explains how fatal accidents occurred partially as a result of such choices. What this study tells its readers, then, is that signs are a bridge between people and their world. Depending on the choices visible in them, they can be a source of trust and safety or of sham and danger.

Then the internal workings of China's traffic world are opened to us. The cultural, psychological, and administrative facets of this world are scrutinized one by one. These facets cover design presumptions and responsibility allocation. Even more interestingly, they cover often implicit and ambiguous psychological dimensions, explaining how drivers swallow their anger and tolerate the unreasonable. The author identifies the justifications that allow drivers to do this, justifications that give them the reward of allowing them to separate themselves from visitors and international expats. The author also analyzes common driver attitudes toward traffic problems—e.g., the self-congratulatory idea that "we are doing well and fast enough, thus solutions can wait and reality can be lived with".

In many fast-developing countries, rapid urbanization has witnessed similar patterns of confusion, anxiety, and psychology with regard to traffic signs and regulations. Globalization challenges local residents in these countries to welcome outsiders, new ways of communication, and multiple cultures. And it commands them to abandon their self-centered ways of orienting themselves and to depend instead on traveler-friendly signposting. The more globalized the human race, the more urgent these challenges and commands become. This case study tackles miscommunication between signs and drivers and between locals and foreigners. It can thus help us meet the needs of our increasingly globalized world.

And thus, for anyone who is interested in the important dynamics of actual human relationships in space and motion, Dr. Dai' s book is a must-read.

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CHAPTER ONE

INTRODUCTION

1.1 Historical background of Traffic in China

The typical Chinese idea of traffic can be well reflected in Confucius' famous quote in *Analects*: "While his parents are alive, the son may not go abroad to a distance" (Confucius 1869, 122). This denial of mobility has affected millions of people in China for over two thousand years. Many live and die where they are born without making any further steps toward the outside world.

Yet this bias against mobility does not mean that there has been no substantial traffic in the history of China. During the Pre-Qin Period (before 221 BC), traffic was consolidated by the merging of nationalities, and cities were created and carriages and ships were invented. In the Qin and Han Dynasties (221 BC-220 AD), the political unification of a larger China shaped the forms of ancient transportation; thus, as the classic *The Doctrine of the Mean* tells its readers, "Now, over the empire, carriages have all wheels of the same size" (Confucius 1869, 215). This kind of advice made roaming about the country more standardized. Alongside the emergence of domestic traffic, China's communication with outside areas such as Japan, Korea, the South China Sea, and the Western Regions (Xiyu, Central Asia, specifically west of the Yumen Pass) became more prosperous.

In the time of the Sui, Tang, and Song Dynasties (581-1279), the growth of river and canal transportation shaped the terrace and traffic designs of a developing country. New arterial roads were built, rivers were reshaped, and canals were dug. With the development of traffic infrastructure, cosmopolitans came into being. Quite apart from capital cities like Chang'an and Luoyang, river cities like Bianzhou and Yangzhou, and seaside cities like Guangzhou (Canton) and Quanzhou soon became important traffic nodes. International communication with the west, the north, the southwest, and the south was rather frequent by the time the mid-Tang Dynasty reached its apex. Notably, in the Tang Dynasty, strict traffic laws were stipulated and implemented, inhibiting the free flow of civilians. For example, waterways and roadways were blocked with checkpoints such that only people with authorized permits could pass those points. At this time, the means of transportation such as boats and carriages made no real advances. Clearly, even during a period of exploding trade, traffic was relatively inaccessible to the masses.

The era of Yuan, Ming, and Qing (1271-1912) was marked by the rise of sea transportation and the relative fall of the inner-river system. The Sino-European relation was the keyword for communication in this period, but due to the increasing power of the Western Regions, the Sino-European trade bond was off and on. Restrictions on the seaways were also changeable, varying from open to closed and all points between. But due to the first Opium War (1840-1842), the gateways to the Mainland were reopened, marking a new phase for China and its transportation networks. Unfortunately, the means of transportation still didn't progress much. However, at the end of the Qing Dynasty, after the Beijing-Zhangjiakou Railway came into service in 1909, human mobility began to increase.

During the time of the Republic of China (ROC, 1912-1949), cars, a symbol of luxury and social class, were seen on the streets of China. In 1934, the ROC government issued its first national edict on road-traffic management. This edict authorized three major types of traffic signs: regulatory signs, warning signs, and guide signs. It was not until 1951 that the People's Republic of China promulgated new provisional regulations for traffic management; these regulations were largely based on their ROC antecedents.

Traffic was not a new thing to the Chinese people before the foundation of the People's Republic of China. Yet Bai Shouyi, a famous traffic historian, deemed these traffic "improvements" of the ROC period elementary at best.

Bai (1937/2011) gave the following reasons: “The traffic management hasn’t performed its duty well as sloth and corruption still prevail; …China [ROC] lacks the technical staff in the traffic realm and it has no specialized research body in the traffic realm”. Thus, the historian appealed for more efforts at improvement from both the government and the people because traffic is a cause that concerns the fortunes of the whole nation.

Clearly, the ancient agricultural country’s traffic was largely associated with carriages, boats, and a disavowal of rapid mobility. To many people in the past, the idea of traveling by car was only a distant and unaffordable dream.

1.2 The status quo

Contemporary Chinese traffic starts with the country’s Open-Door Policy. Within about forty years, most notably during the last decade, the growth in traffic volume, automobile numbers, and overall (including novice) driver numbers synchronized with the country’s astounding economic achievements.

The economic boom has undoubtedly provided solid ground for the leap in traffic infrastructure across the country. The statistics[1] are self-evident. In 1978, the national GDP was 364.5 billion yuan and GDP per capita was 381 yuan (about 226 US dollars), while the numbers in 2019 became 9,908 billion yuan and 70,892 yuan (about 10,000 US dollars). Road networks, meanwhile, multiplied. In 1978, the national highway mileage was 890,000 kilometers with the number rising to 5,010,000 kilometers in 2019, multiplying its 1978 counterpart by over five times. With more disposable income and a better road system in place, most Chinese could now dream in a practical way of owning a car. Admittedly, China has followed the industrial path once traveled by its rivals (e.g., the UK and the US), repeating some of their encounters. While these countries enjoyed the bonuses brought by their booming economies, they also learned the lessons taught by overcrowded metropolises, deteriorating environments, etc. Like recurring nightmares, those same conditions harass China today, so China must learn and innovate, too.

With its rapid modernization and urbanization, China has been part of the “car age” since the 2010s. National statistics[2] provide detail as to what this means. The number of civil automobiles hit a record high of 126 million by 2013, when this study started. By 2019, China had 260 million automobiles and 397 million licensed drivers. In 2019 alone, over twenty-six million new drivers began using China’s roads. Meanwhile, fatality rates on the roads were startling. According to a WHO report on road safety,[3] the modeled number of road deaths in China reached 256 thousand in 2017. Owing to the pressure on public and private transport caused by China’s rises in human mobility, the need for a more efficient traffic signing system has become increasingly desperate.

The correlation between road accidents and the interpretability of traffic signs has been addressed in the research literature. Malaterre (1990) finds that negligence toward and incomprehension of traffic signs greatly increase the risk of road accidents. Indeed, other researchers have also argued that the misrecognition of traffic signs is one of the leading causes for road accidents (e.g., Retting, Weinstein, and Solomon 2003; Massie, Campell, and Blower 1993; Ou and Liu 2012). Although there are fewer investigations of sign-induced accidents in China, there are discussions of how traffic signs can threaten road safety (Wen 2012; Yin, Wang, Wang, and Zhou 2000; Zheng 2002; Zheng and Niu 2002).

In China, the uniformity of traffic signs is a work in progress. Although the first book on traffic signs by the People’s Republic of China was issued in the 1950s, a benchmark manual *Road Traffic Signs and Markings* (RTSM-GB5768) emerged in 1986 and underwent two major revisions in 1999 and 2009—and no large-scale revision has been completed since 2009. Clearly, having only recently become a car country, China did its part to embrace the idea of “cars for everyone” and it has tried its best to standardize traffic signs across the country. Yet whether the signs are implemented in line with national benchmarks and whether important details are ignored in the manual itself demand further field studies on the Chinese roads.

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[1] See http://www.stats.gov.cn/tjsj/ndsj for the annual official statistics release by the National Bureau of Statistics of China, Accessed July 30, 2020.

[2] Also see http://www.stats.gov.cn/tjsj/ndsj, Accessed July 30, 2020.

[3] https://www.who.int/violence_injury_prevention/road_safety_status/2018/en/, Accessed August 12, 2020.

Overall, China, having become an economic titan, has done its utmost to embrace modern trends in communication and transportation. But considering that the country was deeply rooted in agriculture for more than two thousand years and has just made its *entrée* into the outside world, the adaptability and efficiency of its traffic system demand more attention.

1.3 Questions and methodology

1.3.1 Questions

The ancient mindset undervaluing mobility, the lack of traffic genes in Chinese blood, the short experience with travels and signage, and the death tolls on Chinese roads—all these realities led me to some significant questions. What do traffic signs look like in China? What traffic messages are delivered on signboards? How do drivers use the signs, and what do they think of them?

This book is thus anchored to traffic signs and drivers much as the nation has been anchored to transportation and the rising tide of drivers. Specifically, this study scrutinizes the discourses (i.e., the language and other semiotics) in traffic encountered and felt by drivers in Guangzhou, a tier-one city of China and one hub of the Guangdong-Hong Kong-Macao Greater Bay Area. The author believes that by giving an account of these signs and of the thoughts of drivers as well as of the traffic authorities, readers may not only understand how traffic signs represent the geographic world in China, but also how they serve, or fail to serve, drivers' communicative needs.

1.3.2 Theory

Every sign in the world communicates its messages verbally, visually, and through its context or "placeness" (i.e., its in-place meaning). What's more, due to the communicative property of a sign, the actions of sign users may also be understood or read. To capture all these elements, this study adopts geosemiotics as its theoretical and analytical method for looking at China's traffic world.

Geosemiotics is defined as "the study of the social meaning of the material placement of signs in the world" (Scollon and Scollon 2003, 110). The theory outlines a grammar of *discourses in place* (i.e., signs in the material world) from a variety of fields from linguistics to cultural geography, from communication to sociology. Geosemiotics is a holistic methodology encompassing four variables: interaction order, visual semiotics, place semiotics, and social action (the use of signs by people). The four aspects are summarized in Table 1.1.

Table 1.1 Theoretical tenets of geosemiotics

Interaction order	all of the ways in which we may be together with others in the world (by Goffman 1959; 1963; 1971; 1983)
Visual semiotics	the study of the ways in which images produce meaning (from Kress and van Leeuwen 2001)
Place semiotics	a set of semiotics systems consisting of code preference, inscription, emplacement, and so on, which contribute to the meaning of the place (by Scollon and Scollon 2003)
Social action	the many actions going on within the semiotic frame, which together imply that sociocultural habitus is part of any action taken (by Scollon and Scollon 2003)

Due to the fact that the indigenous features of traffic signs are my research object, three aspects of the above (visual semiotics, place semiotics, and social action) are highly relevant to the questions this study has posed and have hence been chosen as points of focus. However, interaction order has been omitted because this study deals with sign-user communication rather than with interpersonal communication. Besides, textual analysis is added to the research because traffic texts on signboards are a crucial source of meaning without which the signs' messages might well be nullified. Therefore, based on the perspectives of this research in relation to geosemiotics, a revised analytical framework is proposed in the following Table 1.2.

Table 1.2 A tentative analytical framework

Texts (textual meaning)	the study of semantic messages in semantics and of Roman-script strategies of traffic signs
Visual Semiotics (visual meaning)	the study of the visual features of traffic signs that produce meaning via modality and composition
Place Semiotics (in-place meaning)	the study of the in-place meaning of traffic signs as arising from their code preference, inscription, and emplacement
Social Action (the meaning in action)	the ethnography of users' social behaviors and mentalities when interacting with signs

Specifically in this study, textual analysis takes a semantic and Roman-script approach to the meaning of traffic signs in China for both natives and non-natives; visual semiotics studies how visual components (modality and composition) affect the meaning of signs; place semiotics investigates the place meaning regarding signs' code preference, inscription, and emplacement; and the study of social action surveys drivers' ways of comprehending signs and of making a selection regarding the semiotic system and their attitudes toward this system.

1.3.3 Data selection

For this research, two major datasets were included: traffic signs and verbal data from their users. In the studies of texts, visual semiotics, and place semiotics (Chapters Two, Three, and Four), traffic signs in Guangzhou were selected to represent the overall picture of traffic signs in China. The decision to sample in Guangzhou is grounded in two reasons: (1) Guangzhou is one of the four tier-one metropolises and an important hub city in China with about forty years of economic expansion and infrastructural advancement. The city is typical of China in its modern urban planning and management as well as in its standardized signing system. In many ways, Guangzhou resembles the other thirty-seven major cities of China[4] in that it suffers from the traffic dilemma and is handicapped by its preexisting landscape and road networks; and (2) When performing research on the semiotic landscape, local knowledge and connections are desirable because they offer down-to-earth interpretations of the traffic data. As an active driver for fifteen years with a long stay in the city, I have acquired familiarity with Guangzhou's municipal vehicular network and have procured important sources of information. In the ethnography of drivers' actions, verbal data from interviews and email contacts were selected in order to build a picture of driver experiences and driver thoughts. This study has also adopted other supporting evidence such as official documents (including the RTSM, MUTCD, and SETPS), news reports, government statistics, online materials, etc.

[4] The thirty-seven major cities have been entitled by the central government as either provincial capitals or vigorous cities.

1.4 Data collection

In order to best represent the de-facto situation of traffic signs in Guangzhou, I collected a photo shoot of over 3000 traffic signs along three major types of road (expressway, highway, and municipal road) from January 2013 to January 2015. The data acquisition lasted two years, longer than is usual for mainstream semiotic studies, as I wanted to present not only the typical traffic landscape but also how that landscape was changing during the time of the study. The major sampling areas included four urban districts (Tianhe, Yuexiu, Liwan, and Haizhu), two suburb districts (Panyu and Huadu), and two industry districts (Huangpu and Baiyun). In order to display signing differences among regions and countries, traffic signs in Hong Kong SAR, China and the UK were also collected for comparison.

For the study of social actions, open-ended interviews or email contacts with strangers and acquaintances were recorded (fifty people) and analyzed (fifteen people). This dataset concentrates on three distinct areas of concern: (1) the users' significant experiences and their own understandings of those experiences; (2) the mode of communication adopted by various kinds of drivers and the influence that these communicative practices have had on them; and (3) the underlying factors for such communication within a Chinese cultural context.

1.5 Cultural context and communication in traffic

This is a study of communication. It means to show the workings of the sign-human interaction in terms of both form and content, but it has other theoretical purposes as well. For example, it hopes to reveal the mechanism guiding sign-human communication. It is this implicit mechanism, if any, that decides what we say and how we say it as well as what we hear and what we do.

As is widely known, research on human communication has concentrated on culture in the past few decades. A famous claim is that culture frames communication (Hall 1959, 119). Hall finds that different cultures have different degrees of information contexting, the preprogramming process in/by which communication occurs, in order to promote effective communication in those cultures.

Hall argues that contexting may be subject to two conditions: the brain of the receivers (their experiences and their innate organisms) in combination with their situations. The former is tied to the inner causes of the communicators (their past experiences, their thinking, and their ways of thinking, etc.) and the latter involves a variety of situational factors (the environmental, physical, or exterior characteristics), all of which contribute to the meaning of a whole event.

Hall (1977) envisages a degree from high to low in different cultures—the continuum of high-context culture (HCC) and low-context culture (LCC). He contends that HCC communication is "one in which most of the information is either in the physical context or internalized in the person, while very little is in the coded, explicit, transmitted part of the message" (Hall 1977, 91). Conversely, LCC communication is one in which "the mass of the information is vested in the explicit code" (ibid.). In short, the high-and-low-context dichotomy holds that in an HC culture meaning is "preprogrammed, internalized and covert" while in an LC culture meaning is "externalized and overt" (Lustig and Koester 2007, 111).

China is "near to the end of high-context culture" (Hall 1977, 91). Yet as China is "the possessor of a complex culture" (Chen and Starosta 2007, 50-51), its communication modes in social life still await further investigation. Up to this point, my concern has lain in several questions: how is traffic information programmed in China? Does its contexting follow an HCC pattern? If yes, what kinds of contexts are involved in traffic?

It is hence both interesting and significant to scrutinize the culturally specific contexts of the given sign-user communication and to examine how those contexts operationalize sign-user communication in the traffic settings of China as described in Sections 1.1 and 1.2. Table 1.3 provides a summary of the differences between HCC and LCC. And the table serves as a yardstick to measure the contextedness of the communication of traffic signage and their users in China.

Table 1.3 A comparison of HCC and LCC

High-Context Culture		Low-Context Culture	
1.	Implicitly embeds meaning at different levels of the sociocultural context.	1.	Overtly displays meaning through direct communication forms.
2.	Values group sense.	2.	Values individualism.
3.	Tends to take time to cultivate and establish a permanent personal relationship.	3.	Tends to develop transitory personal relationships.
4.	Emphasizes spiral logic.	4.	Emphasizes linear logic.
5.	Values indirect verbal interaction and is more able to read nonverbal expression.	5.	Values direct verbal interaction and is less able to read nonverbal expressions.
6.	Tends to use more "feeling" in expression.	6.	Tends to use "logic" to present ideas.
7.	Tends to give simple, ambiguous, noncontexting messages.	7.	Tends to emphasize highly structured messages.
*8.	Tends to adopt free information flow (Hall and Hall 1990).	*8.	Tends to adopt rigid information flow (Hall and Hall 1990).
*9.	Tends to be polychronic (Hall and Hall 1990).	*9.	Tends to be monochronic (Hall and Hall 1990).
*10.	Tends to be reader-responsible (Connor 1996).	*10.	Tends to be writer-responsible (Connor 1996).

Note: Based on the original discussion in Chung (1992, as cited in Chen and Starosta [2007, 51]). The items with an asterisk have been appended by the researcher as a supplement.

1.6 Definitions of terms

The following terms need to be defined before pursuing the practical and theoretical discussions of this study.

First, discourse is defined as "a body of language use and other factors that form a 'social language' such as the discourse of traffic regulation, commercial discourse, medical discourse, legal discourse" (Scollon and Scollon 2003, 210). In other words, discourse in this book refers to (1) any sign (language, color, font, place, etc.) that can be understood or used to trigger some action; and (2) the action itself that can talk back to those signs.

The term *communication* is defined by the *Glossary of Semiotics* as "the process of transmitting and receiving a message" (Colapietro 1993, 67). Thus, in this study, "communication" refers to the process of sending traffic messages by traffic signage and the process of receiving them by humans. I believe that the success of this kind of communication rests on the premise that a driver can receive exact messages and act accordingly.

Traffic signs refer to any official signs placed in traffic fulfilling a specific traffic purpose. The national benchmark RTSM (2009) defines them as "traffic control devices by using colors, shapes, characters and graphics to inform road users of certain information" (1). Traffic signs are divided into main signs and auxiliary signs. Main signs fall into sub-categories: warning signs, prohibitory signs, mandatory signs, guide signs, tourist signs, and roadwork signs. Auxiliary signs serve as add-ons for main signs indicating distance, time, and auto types.

The *users* of traffic signs refer to every audience[5] in the presence of signs, including novice users who rely heavily on those signs as well as the experienced users who are customarily inattentive to them. In this study, novice users are termed *strangers* and include those without linguistic competence (e.g., foreigners), driving knowledge (e.g., new drivers), or geographic knowledge (e.g., newcomers). Veteran users are termed *acquaintances* and include those who have acquired enough driving and geographic know-how (e.g., experienced drivers) and those who are traffic professionals with a deep understanding of traffic signage and a wide range of on-site experiences (e.g., traffic engineers, sign makers, and traffic police). Both strangers and acquaintances, by providing their perceptions, can help

[5] In semiotics, human addressees of signs are often termed the "audience" by convention. In this book, the audience is also referred to as users (of signs).

construct a true picture of how sign-user communication works in Chinese traffic.

1.7 An overview of the book

The book contains six chapters. This chapter has introduced the historical context of traffic in China and the status quo of traffic and traffic signs in China. In addition, it has raised research questions and introduced methodological issues, including theory and data issues. Finally, key terms have been defined.

Chapter Two constitutes a textual analysis of traffic signs in China to examine what is written on the signboards in both English and Chinese. Traffic signs according to their classification are addressed respectively to demonstrate what kinds of information are displayed in the traffic linguistic landscape of China. Also, the signs' use of Roman scripts is scrutinized to verify the difficulty of converting Chinese place names into English or Pinyin for international drivers.

In Chapter Three, a lengthy study on the visual elements of authentic traffic signs in China is conducted in order to reveal the Chinese way of using visualities to convey messages in traffic. Modality (color, lightness, contrast, and illumination) and composition (writing vectors and line feed) are studied.

Chapter Four constitutes an in-place analysis of traffic signs that focuses on code preference, inscription, and emplacement. For code preference, monolingual, bilingual, and trilingual signs are treated in view of their hierarchical relationships; for inscription, fonts and state changes are analyzed; and for emplacement, transgressive signs and situated vectors are sorted out. The three aspects reveal how geography imposes its influence on signs and their meanings.

Chapter Five serves as an ethnographic account of sign users that focuses on their experiences with traffic signs and their understandings of driving in China. By dividing the users into two groups, strangers and acquaintances, the chapter answers questions about how sign users choose to respond to traffic signs, how they interpret that usage, and what could account for the various indexical features visible in Chapters Two, Three, and Four.

Chapter Six, the conclusion, marks the end of the book. It reiterates the book's argument, addresses its contributions, and urges more follow-up research in the field.

CHAPTER TWO

TEXTUAL ANALYSIS OF TRAFFIC SIGNS

2.1 Introduction

This chapter reports on various traffic data, zeroing in on the pre-place meaning system of traffic signs. Specifically, it examines the many indexical features of traffic signs to convey the linguistic and iconic messages they communicate to their users. As it happens, traffic signing texts are not merely the representative forms of prescriptive verbal messages in the manual book; rather, they are rooted in their cultural contexts such that their meanings only come across to—and can only be used by—certain addressees.

The chapter is divided into two sections. First, Section 2.2 adopts a data-driven approach to illustrate the various textual features concerning each generic type of traffic sign through its legend (i.e., symbols, indexes, and icons) in order to offer a lengthy account of some issues of the traffic signing system in the Chinese culture. The analysis falls into four categories regarding their official benchmark RTSM (2009): guide signs, mandatory signs, warning signs, and prohibitory signs. Second, Section 2.3 investigates the Roman script[6] of traffic signs directed at foreign drivers in China. Drawing on typical examples from an enormous range of data, this study examines the ways that signing messages convey their semantic meanings to their native and non-native users.

Semiotics, like linguistics, is targeted at the quest for "a tie between language [or a sign] and its meaning to space, social relationships, and time" (Scollon and Scollon 2003, 25). In this way, several questions are to be anchored: What is spoken? When and where is it spoken? What is their social situation? And who is the speaker/the hearer? However, it should be noted that the answer to any of these questions shall not be interpreted in isolation from the others, because meanings arise from multifarious sources and are infallibly "bound up with [contexts]" (Hall 1977, 90). In this chapter, "what is spoken by traffic signage" is discussed, combined with the perspectives of the concurrent questions raised above.

2.2 Semantics of categorized traffic signs

The linguistic term "semantics" is to study "the relationships between linguistic forms and entities in the world" (Cowie 2009, 9) and this section borrows the term and concept to investigate "how words literally connect to things" (ibid.). The purpose of this section is to speculate over the linguistics and iconicity of traffic signs as an important source of their meanings. In outlining the original framework of textual meanings of traffic signage, I decide to resort to its official classification as laid down by traffic engineering because a relevant pilot study has revealed the different purposes of different types of traffic signs and the various textual features inherent in each specific type.

Therefore, this section follows the categorization of the Chinese manual RTSM (2009) into main signs and auxiliary signs. Main signs further fall into six sub-categories: guide signs, mandatory signs, prohibitory signs, warning signs, tourist signs, and road-work signs. In this section, the analysis focuses on the four categories for their overwhelming prominence in daily life. They are guide signs, mandatory signs, warning signs, and prohibitory signs.

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[6] Roman script (or Latin script) is any graphic form of the symbols of an orthography representing the sound of a language that are derived from Latin, such as English and French. It is used as the standard method of writing in most Western and Central European languages, as well as many languages from other parts of the world. Roman script is the most widely adopted writing system in the world (commonly used by about 70% of the world's population). Chinese Pinyin is also Roman script. The term "Roman script" is adopted in this book owing to its inclusion of both the English version and the Pinyinized version of traffic signs.

2.2.1 Guide signs

This section investigates the textual features of guide signs in Guangzhou as the most common and conspicuous type of traffic signing system. Generally, a guide sign is to inform road users of "directions, locations and distance" (RTSM 2009, 2) and the RTSM (2009) accentuates three principles of information selection for guide signs: "relevance and orderliness; utility in assisting unfamiliar drivers in reaching their destinations; and moderate information amount" (67).

More specifically, the familiarity of travelers with a road network is identified as a determinant of their need for guide signs. Yet the MRTSM (2009)[7] also recognizes their "facilitating role" for road users who are less acquainted with road networks but equipped with their own precautionary plans (i.e., they are neither well-versed travelers nor unpremeditated ones) (154-155).

Drawing on the data signs collected in Guangzhou, this section illustrates the major textual features of the guide signs. From this evidence, it is found that message coding, semantic relations, information units, information truthfulness, and information types are, respectively, the textual features of guide signs.

2.2.1.1 Message coding

Coding is a method of making roadway information (e.g., highway and expressway) distinct for drivers. In the traffic world, there is a general consensus that a "letter plus number" coding system (like G4 or S81) is more legible and economical than a "Chinese character" coding system (like "京藏高速" [Jing-Zang-Gao-Su, Beijing-Tibet Expressway]) due to their simplicity and clarity (MRTSM 2009). This practice has been customarily implemented in many countries such as the UK, the US, and Canada, and it has been widely and increasingly practiced in China for more than ten years, signaling the progressive changes of a national traffic signing system in line with international practices.

Given the conventionality of traffic signage that has long been based on Chinese characters, the "letter plus number" system is often found to be mediated with Chinese characters by auxiliary signs. As is shown in Figure 2.1,[8] there are four routes—S81, S303, S41 and G4—on the green signs being annotated with their Chinese counterparts. For example, S303 stands for "华南快速" (Hua-Nan-Kuai-Su, Hua'nan Expressway). Clearly, Figure 2.1 displays the commonality of coding practice as well as the peculiarity of translation from pure codes to characters in today's China. However, the double systems in operation are embedded with three indexical features in their communication with travelers.

[7] The MRTSM is the *Manual of Road Traffic Signs and Markings* published in 2009 as a supplementary annotation to the national benchmark RTSM (2009). Both the MRTSM and RTSM are compiled by the same group of authors held as leading traffic signing authorities in China.

[8] The white signs are officially auxiliary signs, but they must be anchored to guide signs for their usage and thus shall be regarded as an extension of the latter type. When addressing the coding systems of guide signs in China, auxiliary signs are not to be excluded.

Figure 2.1 Guide signs and their auxiliary sign on an expressway

First, there seems to be an ingrained habit for Chinese users to read Chinese as they are more accustomed to it. For example, codes without linguistic annotation may still appear to be nebulous to Chinese readers who have been used to reading a word coding system like "京珠高速" (Jing-Zhu-Gao-Su, Beijing-Zhuhai Expressway) for about two decades. One informant, Ren, a visiting scholar in the UK, expresses his needs in message coding:

> I find Jing-Zhu-Gao-Su (Beijing-Zhuhai Expressway) very useful because it just suits my needs. I mean, this is the advantage of Chinese. By putting two Chinese characters Jing and Zhu together, you would know that it starts from Beijing and ends in Zhuhai. It's crystal clear. I can't deny that the letters and numbers are widely and efficiently used in the UK, like M2 or something. I guess that's just the cultural differences. As a Chinese, I am used to, or may have been taught to be used to Chinese characters. To me, these letters and numbers are hard to follow.

The feeling that Chinese characters make more sense is not the intended argument of this section; but Ren's ideas that Chinese characters feel better in coding roadways does reflect the powerful influence of habitus for a monolingual population accustomed to a pre-existing linguistic system and in practice forced to accommodate two systems at hand, even though this dual system is just an "interim solution" toward implementing an entire coding system with letters and numbers. Hence, in 2013, a local newspaper in Shenzhen reported this widespread driver confusion in recognizing roadway numbers and urged sign makers to take a "well-considered and human-oriented approach"[9] in the future.

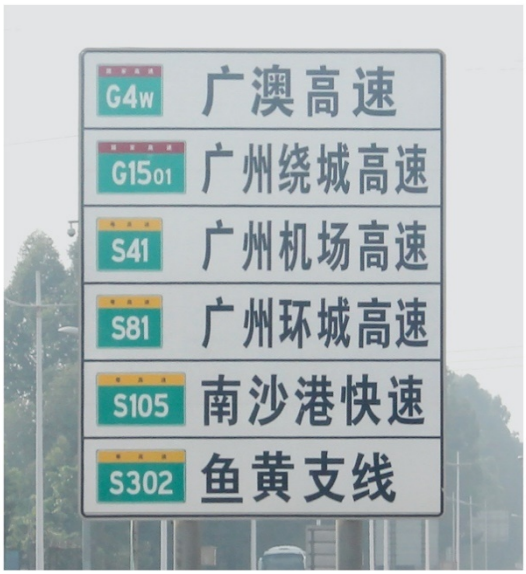
Second, users in China actually process both systems while in traffic, making information overload very likely to happen. Users keep their brains constantly activated to do all the equations. The difficulty in processing "letter plus number" codes with their literal add-ons lies in the fact that the complexity in road coding intensifies as roads prolong, expand, and adjoin, as evidenced by the previous report from the newspaper in Shenzhen; that is, when "lettered" codes work in aggregates, their elaboration can be complicated, as can be seen from Figure 2.2 where six different road sections are verbalized in twelve forms (with six Chinese names plus six "lettered" names). In fact, in Guangzhou, in order to make the whole coding system work, more interpretive signs are found to be installed near guide signs or individually to help recognition or reinforce memory work. Details about every possible route (via two systems) pop out all together in a purely technical and authoritative manner, with drivers' capacity for processing

[9] http://sztqb.sznews.com/html/2013-05/10/content_2474262.htm, Accessed October 12, 2014.

these messages largely ignored. Admittedly, one important design feature of the guide sign is the way they control the amount of information on any one sign by placing limits on each one's legend. In China, for example, a guide sign shall contain "no more than 6 destinations at once" (MRTSM 2009, 158). Meanwhile, in the US, the MUTCD (2009) prescribes that one guide sign shall not contain "more than two destination names or street names" (Sect. 2E.10).

Third, despite all its complications in double-coding practice, this system does not work on a one-to-one basis. Lexical ambiguity may arise when new roads are completed with their new names replacing those of the antecedent roads. Figure 2.3, by putting two Chinese names under one "lettered" name, reveals a top-down concern about the new names in effect and the old ones in daily usage and memory. "沈海高速" (Shen-Hai-Gao-Su, Shenyang-Haikou Expressway, "G15") and "广州绕城高速" (Guang-Zhou-Rao-Cheng-Gao-Su, Guangzhou Ring Expressway, "G1501") both index (at least literally) "北二环" (Bei-Er-Huan, North Second Ring Expressway). Besides, "济广高速" (Ji-Guang-Gao-Su, Jinan-Guangzhou Expressway, "G35") is also known as "广惠" (Guang-Hui, Guangzhou-Huizhou Expressway). "二广高速" (Er-Guang-Gao-Su, Erenhot-Guangzhou Expressway, "G55") is equivalent to "广三" (Guang-San, Guangzhou-Sanshui Expressway). These ambiguous signs may make first-time travelers fall prey to the chaos their obvious complexity creates.

The "lettered" coding system for highways and expressways has been said to be beneficial for road users (RSTM 2009) due to its unambiguous and condensed nature. But its practice in China encounters context-dependent dilemmas. On the one hand, perpetual road construction brings about constant changes in guide information, which accordingly makes it hard for the coding systems to accommodate all the information. On the other hand, the predominance of Chinese characters for road names for almost thirty years seems to nurture the preference for Chinese and a way for Chinese drivers to self-orient, making them all the more reluctant to adjust to an alternative coding system for road names.



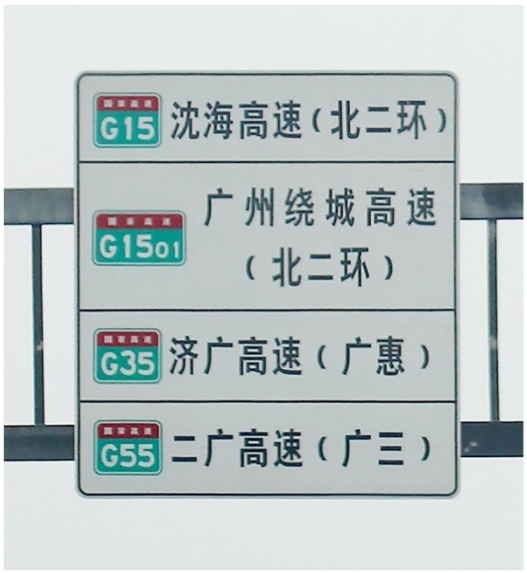


Figure 2.2 Auxiliary sign for double coding systems (left)
Figure 2.3 Auxiliary sign for double coding systems with ambiguity (right)

2.2.1.2 Semantic relations

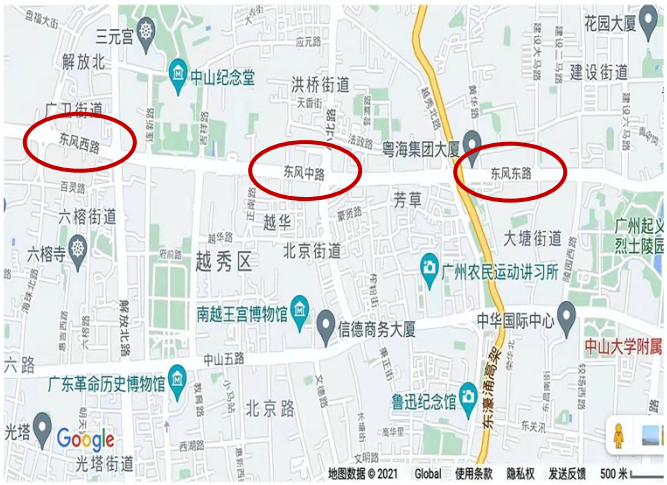
In this section, two important semantic relations (a.k.a., meaningful relations), hyponymy and polysemy, are borrowed from linguistics to describe the two main textual features of road naming in China. It aims to reveal how semantics in geographic names in China exhibits high-context indexical features and thus poses tangible threats to many inexperienced road users.

2.2.1.2.1 Hyponymy issues

In linguistics, hyponymy denotes the relationship of inclusion between the general and the specific. *Sheep*, for instance, is subordinate to *animal* in meaning; they are thus in the position of hyponymy and animal is the hyponym to sheep. Differing from the lexical consideration of this many-to-one relation, hyponymy in traffic refers to the situation of many subordinate geographic names that may (or may not) form a geographic hypernym. For example, road names such as "环市东路" (Huan-Shi-Dong-Lu, Huanshi Road East) and "环市西路" (Huan-Shi-Xi-Lu, Huanshi Road West) are hyponymic subordinates, because directional words "东" (dong, east) and "西" (xi, west) are held together to form the linearity of both directions. From the dataset, it is found that hyponymic subordinates may result in three different geographic/typological patterns in practice. These are hyponymic pattern, parallel pattern, and miscellaneous pattern.

A hyponymic pattern is a phenomenon in which some hyponymic subordinates form a cumulative whole. For example, "东风东路" (Dong-Feng-Dong-Lu, Dongfeng Road East) plus "东风中路" (Dong-Feng-Zhong-Lu, Dongfeng Road Middle) and "东风西路" (Dong-Feng-Xi-Lu, Dongfeng Road West) equals "东风路" (Dong-Feng-Lu, Dongfeng Road) in total, as seen in Figure 2.4. Also, "中山一路" (Zhong-Shan-Yi-Lu, Zhongshan First Road) plus "中山二路" (Zhong-Shan-Er-Lu, Zhongshan Second Road) and … "中山八路" (Zhong-Shan-Ba-Lu, Zhongshan Eighth Road) becomes "中山路" (Zhang-Shan-Lu, Zhongshan Road). It looks as if the mathematic equation $l_1 + l_2 + l_{3...} + l_n = L$ also pertains to the geographic world. In this sense, the three road names constitute a hyponymic pattern when the subtotal (Dong-Feng-Lu in this case) becomes the hyponym to its additive constituents.

However, this formula may not always hold true in reality. It is possible for such a name cluster to index two parallel roads. For example, "体育东路" (Ti-Yu-Dong-Lu, Tiyu Road East) plus "体育西路" (Ti-Yu-Xi-Lu, Tiyu Road West) does not actually constitute "体育路" (Ti-Yu-Lu, Tiyu Road), as may be seen in the map in Figure 2.5 wherein two separate roads are juxtaposed with each other indicating a geometric "$l_1 /\!/ l_2$" parallelism in the concrete world.



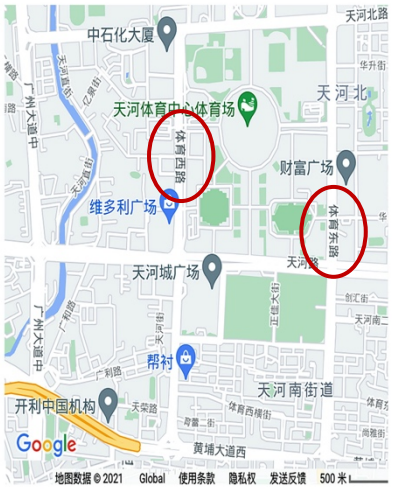


Figure 2.4 A map of a hyponymic pattern (left)
Figure 2.5 A map of a parallel pattern (right)

Chinese people seem to have acquired the linguistic and geographic competence to sort out direction and number from the expression of a road name. For example, in the road name "东风东路" (Dong-Feng-Dong-Lu, Dongfeng Road East), the character "东" (Dong, East) occurs twice. A Chinese may be able to tell that the first "东" (Dong) does not constitute direction but is instead part of a proper name. Yet the second one does not constitute part of a proper name but instead probably indicates the existence of some other "东风西路" (Dong-Feng-Xi-Lu, Dongfeng

Road West), one that further indicates the esteem that Chinese philosophy has for symmetry (e.g., “东” [east] vs. “西” [west]). But even Chinese users don’t seem to have an innate ability to decipher the meaning of a sign when a hyponymic pattern or a parallel pattern is in use. Such codes are embedded within their geographic context, possibly known only by the locals.

There is a third pattern of miscellany when many roads with patterned names are less regularly placed in the geo-world. Figure 2.6 offers an example in the Higher Education Mega Center (hereafter HEMC) to illustrate how similar road names can be arbitrarily dispersed in space and how the presumed hyponymy or adjacency afflicts drivers in direction finding. The five roads on the map “南一路” (Nan-Yi-Road, South First Road), “南二路” (Nan-Er-Lu, South Second Road), “南三路” (Nan-San-Lu, South Third Road), “南四路” (Nan-Si-Lu, South Fourth Road), and “南五路” (Nan-Wu-Lu, South Fifth Road) are named in the same fashion, i.e., “南” (a directional word in Chinese for south) + “an ordinal number”. This group of names could present a rather tricky way for strangers to orient themselves, making the latter believe that such names index a linear or parallel relationship in the real world, to which hyponymy or parallelism may respectively apply. However, the picture shows how irregularity comes into existence in mapping out a geographic world with clustered geographic names. One informant, Xia, a first-year university student, recalled her family’s grueling driving experience in September 2013 in HEMC:

> I was with the whole family when I first visited HEMC as a newly-enrolled university student. We were driving for Guanggong. But we simply detoured about one hour and a half on the island to finally find the place of school enrollment, Nan-Si-Lu (South Fourth Road). When we found Nan-San-Lu (South Third Road), we were so happy because we thought we were getting close. You know San (third) and Si (fourth) are consecutive. We were wrong! Sadly Xi-Wu-Lu (West Fifth Road) popped out as we moved along. This time we even got mixed up about directions! The signs all looked fair but we simply couldn’t find our destination. Who’d know that these series of Nan-X-Lu have not much to do with each other in geography? They are neither parallel to each other nor joining together as a straight line.

Xia’s difficulty in finding her destination resulted from her belief that roads with patterned or consecutive names must be geographically patterned or consecutive. Yet, this logic does not always hold true in China.

From the above, it is clear that hyponymic subordinates (i.e., geographic names with the same proper names but directional or sequential differences) may or may not form a hyponymy in reality. Apart from geographic hyponymy and parallelism, these roads may be entangled in a miscellany, a less systematic or loosely connected spatial relation. Considering the breakthroughs in road construction in China as a fast-growing country, this geographic uncertainty will become more common.

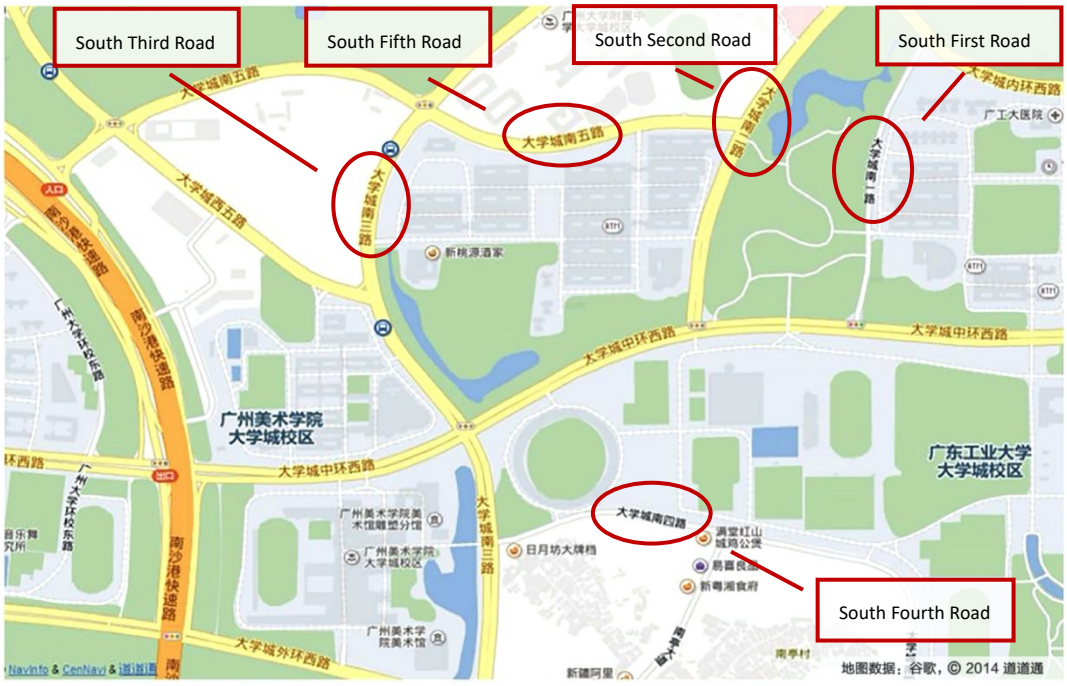


Figure 2.6 A map of a miscellaneous pattern

2.2.1.2.2 Polysemy issues

Polysemy is a significant linguistic phenomenon, which appears widely in the world of languages, referring to the "[one] name given to the existence of many meanings for a single word or phrase, and to the development of such meanings and their relatedness" (Cowie 2009, 7). In short, it denotes the "existence for a given form of two or more quite separate meanings" (Cowie 2009, 123) and is "typically the result of creativity" (7).

In the Chinese landscape, the polysemic phenomenon also applies to toponyms (place names). In the era of economic boom and municipal changes, countless roads, places, and buildings are being created, making their naming a difficult matter for urban planners. There are three types of polysemy that constitute typical textual features in guide signs: one name for many places, one place with many names, and one place for many directions.

One name for many places

As it happens, there are roads or places in Guangzhou with identical names. Take, for example, "迎宾大道" (Ying-Bin-Da-Dao, Yingbin Avenue), there is one in Panyu District and another in Huadu District, as seen in Figure 2.7. Also, there are three "棠下村" (Tang-Xia-Cun, Tangxia Villages), making their interpretation difficult even for locals. In 2013, the Guangzhou Traffic Bureau implemented an overall bus-stop renaming program due to this extensive polysemy in traffic lest passengers should be misled.[10] This type of polysemic situation may result in part from the big city's suburban blueprint, which may incorporate individual lower-grade cities/regions along with their own set of names. In this case, the existence of roads or places with exactly the same names becomes more and more likely.

[10] http://www.gzjt.gov.cn/gzjt/web/Interactive/CollectInfo.aspx?infoid=15, Accessed August 1, 2014.